The Friends of Pontoosuc

Pontoosuc Lake News

Volume 5, Issue 1

March 2004

Who to Call with Your Concerns About Pontoosuc Lake

*In Pittsfield, call your City Councilors.:

Lewis Markhan (Ward 1) 443-5745.

Tony Maffuccio (Ward 7) 499-4633.

*Call the Pittsfield Dept. of Public Works with your concerns about the weed harvesting program, 499-9314. Call the Parks Dept. about the parks or beaches, 499-9343.

*In Lanesborough, call Paul Boudreau, Town Administrator 442-0965.

*Call your legislators:

Sen. Andrea Nuciforo, 442-6810.

Rep. Peter Larkin, 448-8714.

*The Friends of Pontoosuc Lake Board of Directors:

Lee Hauge, 442-6691.

Michele Rivers Murphy, 443-7881.

Ron Tinkham, 448-8370.

Gordon Zaks, 499-4680.

Bev Brown, 443-5985.

Tim Coe, 448-5304.

Dan Miraglia, 442-3568.

Michael Passardi, 448-2797.

Amy Pfeufer, 442-1521.

Carolyn Sibner, 445-4430.

Carole Siegel, 443-5445.

WEED HARVESTING PROGRAM

The Friends of Pontoosuc have met with the Pittsfield people responsible for conducting the weed harvesting program to review the 2003 program and begin planning for 2004. Tom Foody of the DPW, who managed the program, was present as well as Bruce Collingwood, Commissioner of Public Works and Utilities, and Jim McGrath, Director of Community Services. The program removed over 290 tons of weeds from the lake in 2003, at a cost, shared between Pittsfield and Lanesborough, of $45,000. This was the first year that the program was operated by the DPW, and the success of the program validates the decision to transition the harvesting program to the DPW. The weed condition of the lake was unquestionably better than it has been for a long time. Many thanks to Tom Foody and his crew for the excellent job performed!

The program cost was somewhat higher than planned. We had anticipated a total cost for the season of $40,000 vs. the $45,000 expended. There are three reasons for higher than planned costs in 2003.

1. The high speed barge, which was made operational for the first time in several years, experienced mechanical problems. Funds were spent to get it operational. Thanks to the skill and expertise of the DPW maintenance crew, by the end of the season the barge was fully functional, and will be ready for service next year.
2. The function of the high speed barge is to transport weeds from the harvesters to the take-out location, and unload them via conveyer to the truck. This is more efficient than having the harvester leave the area where weeds are being cut and paddle slowly to the take-out point. Because of the inoperability of the barge, operations in 2003 were not as efficient as we expect them to be in the future.
3. Fixed costs of the weed harvesting operation are shared by Pontoosuc, Laurel Lake, and Stockbridge Bowl, as equipment serviced and operated by the Pittsfield DPW serves all these lakes. In 2003, Stockbridge Bowl did not use the harvesting services because of permitting problems. We expect Laurel Lake to be a participant again this year.

Harvesting is our only planned method of weed control in 2004. (See the report on weed control options elsewhere in this newsletter.) The outlook for 2004 is for an even more effective and efficient harvesting program. The DPW is committed to continue the program and will benefit from the learning experienced in 2003, as well as the improved condition of the equipment.

Of course, funding of the program is done on an annual basis and is dependent on actions of the Pittsfield City Council, and of the Lanesborough Town Meeting. We all need to work to ensure that the harvesting program is adequately funded in order to enjoy unfettered use of the lake this year.

Lee Hauge

WATER QUALITY MONITORING: Why Do We Test, and What Do We Test For?

Ask anyone who has been around Pontoosuc over the years and they will tell you, "that the Lake was a lot cleaner and a lot less weedy years ago, than it is today". This subjective measurement, while certainly valid, does not provide a sufficiently accurate measurement of the changes that have occurred over the years. Therefore, we undertake a testing procedure to measure the year-to-year chemical and physical changes of Pontoosuc's water.

Pontoosuc Lake is "eutrophic". Eutrophication is a process by which lakes become enriched with nutrients – usually phosphorus – that cause increased amounts of algae, more frequent algae blooms, depleted oxygen in the lake's bottom waters, and often an increase in rooted plants (weeds). Eutrophication is the problem, and although Pontoosuc is not at the extreme end of the eutrophication spectrum, it appears from the test data that the eutrophication process has been moving in the wrong direction over the past few decades.

Several indicators are normally used to assess eutrophication and its unpleasant manifestations. They are:

Indicator	Significance
Phosphorus	Naturally occurring phosphorus is considered the limiting nutrient in lakes. But nature's limited supply has been greatly increased by humans over the years.
Algae	Algae are microscopic plants that float in lake water. Algae becomes more abundant as the level of phosphorus in the water increases.
Clarity	The transparency of the lake water is easily observable. As the amount of algae increases the water clarity decreases. Clarity is measured using a Secchi disk, an 8-inch black-and-white disk that is lowered over the side of a boat until it disappears. The sooner it disappears, the lower the clarity.

Three water quality indicators – phosphorus, chlorophyll and clarity, are related to perceptions of lake conditions, and Pontoosuc may be classified by the following grading system developed and based on these indicators (Osgood, 1989) .

Phosphorous (mg/l)	Chlorophyll	Secchi (feet)	Grade	Perceived Condition
<23	<10	>10	A	Crystal clear
23-32	10-20	7-10	B	Little algae, minor
32-68	20-48	4-7	C	Definite algae, impaired use
68-152	48-77	2-4	D	High algae, un-enjoyable
>152	>77	<2	F	Severe algae, no enjoyment

Water Quality Testing: 2003 and Comparisons with Previous Years

Over the past summer a group of volunteers (Gordon Zaks, Dave Francour, Lee Hauge, Bob Race and John Hickey) ran several tests and took samples to measure the quality of the water in Pontoosuc Lake. These tests consisted of Secchi readings, water temperature, phosphorous, dissolved oxygen, and chlorophyll levels; and they were done at the deepest part of the Lake.

SECCHI READINGS

Month	1975	1997	1998	1999	2003
Apr	9.5	9.5	*(These results are in feet)*		
May	10.0	6.6			6.6
Jun	9.5	13.1	13.1		5.5
Jul	7.0	9.2	9.8	8.5	
Aug	6.0	8.2	8.2	6.2	
Sep	5.5	6.2		6.6	6.0
Oct	8.0	5.9			6.9
Nov		8.2			
Range	5-10	6-13	8-13	6-9	5-7

When comparing 2003 readings with those made in 1975, 1997, 1998, and 1999 the clearness of the water in Pontoosuc Lake has diminished.

DISSOLVED OXYGEN

We measure dissolved oxygen because as algae and other organic materials settle from the surface they are decomposed by microbes, thereby consuming dissolved oxygen. Low oxygen can lead to fish kills. It can also result in more phosphorous leaching into the water from the sediments, thereby feeding the weeds more phosphorous.

Depth (ft)	1947	1954	1955	1965	1974	1975	1976	2003
Surface	7.2		6.7		8.0	8.7	7.7	***(D.O. is measured in mg/l)***
-5	7.2			8.9	7.8	8.9	7.5	8.0
-10	7.8				7.2	8.9	7.2	7.9
-15	7.6				4.8	8.6	6.9	7.5
-20	7.6		0.6		0.0	0.5	3.7	5.9
-25	7.2	7.0		0.4	0.0	0.2	0.3	0.4
-30	7.2	3.4			0.0	0.1	0.3	0.2
-35	7.2	1.2	0.0	0.1		0.1	0.0	

Oxygen levels now seem similar to those from 30 years ago. Unfortunately, the decreasing oxygen levels as you go deeper down into the lake means that the fish that like cooler water, like trout, will not have enough oxygen in the deeper parts of the lake where they like to hide during the hot summer months. John Hickey

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STORM DRAIN PROJECT IN LANESBOROUGH

The storm water Best Management Practices (BMPs) on Profile Street and National Street are complete. At this time, however, there is no funding to complete the BMP installation on Imperial Street as remaining funds in the s319 grant may be used to correct a runoff and erosion problem from E Street. Stay tuned…

In 2003, volunteers from the Friends of Pontoosuc and staff from the Housatonic Valley Association monitored the weather and the storm water flowing out of the infiltration tank installed on Profile St. The most noticeable improvement resulting from this BMP was the lack of water flowing into the lake from the street. By far the majority of the runoff from Profile Street flowed from the street into the infiltration tank and from there filtered into the soil below it. By filtering through the soil before entering the groundwater, the runoff is cleaned of many impurities like bacteria and phosphorous; working in a manner similar to a septic system. Although the goal of the monitoring program was to look at the *quality* of the water flowing directly into the lake, we had few opportunities when there was enough water to bypass the infiltration tank and flow directly into the lake. This should result in a significant reduction in pollution running from that neighborhood into the lake. Now if we can only clean up the rest of the runoff from around the lake! Amy Pfeufer and Carolyn Sibner

Many thanks to the Lanesborough DPW for their hard work and help with this project!

WEED CONTROL STUDY

The Friends of Pontoosuc contracted a study of the weed situation in Pontoosuc Lake in 2003 using funds from a grant obtained from the Berkshire Environmental Fund (BEF). Results of the study, performed by Geo-Syntec, are in. Three objectives of the study were

1. Assess the condition of the lake using accepted macrophyte (plant) survey standards.
2. Train volunteers from the Friends of Pontoosuc to conduct surveys in the future.
3. Provide an assessment of options for weed control.

Two documents were delivered:

1. Lake Pontoosuc aquatic vegetation assessment
2. Field guide to the Aquatic Plants of Pontoosuc Lake

The results of the study will be useful to us in developing plans for control of our weed problem, and in conducting assessments on an ongoing basis to objectively evaluate the degree to which the situation is improving or degrading, and the effectiveness of control techniques being implemented. Thanks to Bob Hartzel of Geo-Syntec for an excellent job on the study. Mechanical harvesting appears to remain as our best means of control in the near term, and perhaps for the long term, but more extensive drawdowns, introduction of weed-eating weevils, benthic barriers, and perhaps contact herbicides are options to be considered as a supplement to or perhaps eventually a replacement of harvesting.

A summary in the report of different options of weed control is reproduced below:

§ **Mechanical Harvesting:** In lakes such as Pontoosuc Lake, where milfoil is well-established and uniformly infested, the negative aspects of continued plant fragmentation and spread by harvesting may be balanced or outweighed by the benefits of (1) plant biomass removal and (2) temporary removal of dense plant beds from the top of the water column during the summer recreational season. Curlyleaf pondweed (and other plants that do not propagate readily from fragments) are generally good candidates for control by mechanical harvesting.

§ **Hand-Harvesting:** Hand harvesting is *highly recommended* as the primary control technique for the small pioneer infestation of Water Chestnut discovered in the northeast corner of Pontoosuc Lake. Diver hand pulling or suction harvesting is not likely to be a cost-effective option for the submerged nuisance species in the lake (e.g. Eurasian milfoil, Curlyleaf pondweed), due to the size and contiguous nature of the submerged plant beds.

§ **Hydro-raking:** GeoSyntec did not identify any areas where hydro-raking is recommended at this time. Most of the "nuisance" plant growth in the lake comes from submerged species (Eurasian milfoil and Curlyleaf pondweed), which are not ideal targets for this technique. Hydro-raking is most effective at controlling plants with large/well-defined root systems, typically floating-leafed (such as pond lilies) and emergent species (such as cattails).

§ **Biological Control**: Although milfoil weevils could be an appropriate part of a long-term integrated strategy for Eurasian milfoil control at Pontoosuc Lake, it is important to consider the compatibility of weevils with all components of a long-term plant management strategy. For example, harvesting machines cut, collect and remove the top several feet of plant stems, where most weevils feed and lay eggs.

§ **Drawdown**: Pontoosuc Lake has conducted a 2.5 to 3-foot drawdown for over 20 years. Given the limited

drawdown capacity of the low-level outlet pipe at the dam, there is currently no potential to increase the drawdown to expose a broader area for plant control. A significant percentage of the densely vegetated northeastern part of the lake could be exposed if modifications to the outlet control structure allowed for a regular drawdown depth of 5 feet. An engineering study costing an estimated $10,000 would be necessary to determine the feasibility of making such modifications to the dam. If feasible, permitting for a deeper drawdown through the Wetlands Protection Act would also be required.

§ **Benthic Barriers:** A benthic barrier is essentially a plastic sheet laid on the lake bottom. They are relatively expensive to install and maintain, with costs ranging from $1.00-$1.25/ft². However, benthic barriers provide effective macrophyte (weed) control over high-use areas of limited size, such as swimming areas and boat launching areas.

§ **Dredging:** The feasibility of conducting a dredging project at Pontoosuc Lake is significantly constrained by prohibitively high costs and environmental permitting requirements.

§ **Herbicides:** Use of a systemic herbicide such as SONAR (fluridone) is not likely to be feasible because of Pontoosuc Lake's large size and the inability to use this type of herbicide for spot treatments. A contact herbicide such as diquat can provide non-selective plant control in targeted areas within 7-10 days. Plant regrowth after a diquat treatment frequently occurs within the same growing season, although up to two years of control have been documented. Diquat applications cost between $250-$500 per acre, with the lower end of the price range for applications of greater than 20 acres.

Contact me for more information or a copy of the report. Lee Hauge

Pontoosuc's Lake Management Plan

Thanks to a grant from the Berkshire Environmental Fund, the Berkshire Regional Planning Commission is preparing a Pontoosuc Lake Management Plan. Since the lake was transferred to state ownership in 2000, it has been a state asset with no "home". Presumably, legislation is pending to turn the lake over to the Department of Conservation and Recreation (DCR) for management. The plan that is being developed will serve as a guidebook for DCR as well as for Lanesborough, Pittsfield and the Friends as we all move forward on lake projects.

Topics in the management plan will include: lake water quality, aquatic plant management, fisheries, watershed issues, recreational uses, and management responsibilities, among other items.

A group of board members will be meeting with Melissa Jette from BRPC to discuss priorities and set goals for management of the lake. If you would like to be a part of that discussion, or just give some input, please contact Lee Hauge for meeting times and locations. When they are ready, draft copies will be available to members for review and comment.

Amy Pfeufer, BRPC

PONTOOSUC LAKE PARK

The Pittsfield Department of Community Services and Recreation Department continues to advance the long-awaited construction of a bath house at Pontoosuc Lake Park. The current shortfall in the project budget (approximately $20,000) may be made up soon through several sources, thereby allowing the department to move forward with the bidding phase of the project. It is hoped that construction can proceed this Spring (2004). This is a priority project for the Parks Department, as it will improve the amenities within the park, making for a more comfortable visit for families and tourists. In addition to the bathhouse, the Parks Department is still planning to make improvements to the beach, though the scheduling of this project is dependent on available resources which at this time are not committed. For more information on these projects, please contact James McGrath at the Parks Department, 499-9343.

Jim McGrath

Please keep in mind that the easements, driveways, and roads around the lake that lead right to the shore act like funnels, channeling polluted runoff, and erosion, directly into the lake. Please be careful to prevent erosion along our shoreline, especially in the spring when the ground is wet. Runoff from the shoreline carries dirt, fertilizers, and bacteria into the lake, causing further problems, and thereby decreasing our enjoyment of the lake.

A NEW WEED!

In early September of 2003, Bob Hartzel, the consultant we hired to survey and create a map of the kinds of weeds in our lake, found a very undesirable weed in the north portion of the lake called water chestnut (see photo). Though it sounds like the same thing used in Chinese food, it is not the same (though Lee Hauge tried it and can attest that the nut is in fact pretty tasty, although labor-intensive to prepare). In September, Lee organized a weed-pulling party and over the course of two days volunteers pulled out 50 30-gallon garbage cans full of water chestnuts. Unfortunately, some of the plants had already dropped their seed pods before we harvested them, so we will be faced with more of them this year (and probably several years to come). Water chestnut is a very aggressive weed that can grow very densely and clog waterways. DEP is tracking the spread of this (and other) weeds and apparently it has not been found in western MA until now (sadly, Onota Lake has also found it in their northern cove). It will be critical for us to continue pulling these weeds in 2004 and every year until we eliminate it. Please let us know if you think you have seen water chestnuts on the lake, and/or if you are willing to help us pull the weeds that sprout up this summer.

BE "A FRIEND" BY JOINING THE FRIENDS OF PONTOOSUC LAKE!

Are you (please check):
A New Member ____
Renewing for '04 ____

INDIVIDUAL FRIEND	____	$5.00	BIG FISH	____	$50.00
FAMILY OF FRIENDS	____	$10.00	REALLY BIG FISH	____	$75.00
BEST FRIEND	____	$25.00	WORLD RECORD FISH!	____	$100.00

NAME _____ HOME PHONE _____ WORK PHONE _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

LAKE ADDRESS _____ EMAIL _____

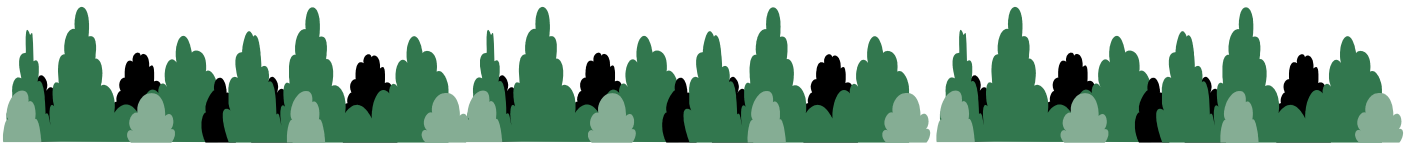
AREA OF INTEREST, OR EXPERTISE _____

_____

✂✂✂✂ Cut off and return with your check payable to The Friends of Pontoosuc Lake, c/o Ron Tinkham, 59 Sunrise St, Rt. 44, Pittsfield, 01201 ✂✂✂✂

TIME TO RENEW YOUR MEMBERSHIP

We ask all members to pay dues once each calendar year. Your membership status is indicated on your mailing label for this newsletter. It indicates the last year for which you paid dues. We all owe for 2004, so please send in your 2004 dues soon. Use the membership form above. No need to repeat address and other information if you're renewing (unless there is a change). We need your continued support to work for a better Pontoosuc Lake.



New Mayor and Lake Ward Councilmen For Pittsfield

A new mayor, James Ruberto, as well as two new lake ward councilmen were elected during Pittsfield's November 2003 election. Lewis Markham, Jr., Councilor, Ward 1 (443-5745) and Anthony V. Maffuccio, Ward 7 (499-4633) are the two newly elected councilors that will represent the lake districts.

Mayor Ruberto has expressed support of lake issues and will be kept abreast of pending lake concerns and initiatives via the Friends. In addition, Councilor Maffuccio attended our November Board of Directors Meeting and pledged his support and willingness to work collaboratively with us. Councilor Markham, although unable to attend the November meeting, expressed his desire to become more informed concerning lake issues and will also attend monthly lake meetings when available.

Friends looks forward to working with all newly elected officials as well as those who have retained their seat as a councilor.

Michele M. Rivers Murphy

THE FRIENDS OF PONTOOSUC

Carolyn Sibner, Editor
98 Oliver Ave.
Pittsfield, MA 01201

ANNUAL MEETING!

APRIL 26th, 2004, 7 p.m. at the ITAM Lodge*

>>> *Please mark this date on your calendar!* **<<<**

We hope to have a speaker from the Environmental Police answer questions about lake rules and regulations. We will also discuss the weed harvesting program, and review the grant proposal we submitted this year for lake projects.

We also want to set a date in early May for a "working meeting" to discuss our lake management plan with you before it is finalized. Please come prepared to think about your goals and priorities for the lake.

Many thanks the ITAM for letting us hold our meetings in their lodge!